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OLD CHAIN BRIDGE, NEWBURYPORT-AMESBURY, MASS.

The First Suspension Bridge in America, restored in 1900, and woodwork preserved with

Cabot's "CONSERVO" Wood Preservative

**Samuel Cabot, Inc.
Manufacturing Chemists
Boston, Mass., U. S. A.**



BOSTON & ALBANY DOCKS, EAST BOSTON, MASS.

"To prevent decay, the boards for a distance of 8 feet inward from the outer walls are painted on both sides with two coats of Samuel Cabot's Conservo.

..... "Wherever wood bears against wood, iron or concrete, both surfaces of contact were thoroughly flushed when dry with Conservo."

— *Engineering Record*, Dec. 25, 1909, Jan. 20, 1910.

TRADE Cabot's "CONSERVO" MARK Wood Preservative

For Protecting from Decay and Insects all kinds of Woodwork, especially Piles, Posts, Ties, Sills, Bridge, Dam and Wharf Planking, Silos, etc.

THE rapidly advancing cost of lumber has made the economy of prolonging its life by protecting it against decay and destruction by worms and insects so clear that no careful manager can overlook it. This advance is due to the increasing consumption and the certainty that the world's accessible timber supply is decreasing in almost the same ratio; which is assurance that the prices will steadily increase. It is therefore plain that the investment of a reasonable amount of money in the preservation of woodwork will yield a sure and substantial dividend, by reducing to a minimum the bill of repairs and reconstruction. Many of the railroad, steamship, and large dock, mining, and warehouse companies, have for some years been alive to these facts, and ties, piles, and timbers which they use are, wherever possible, subjected to very elaborate and expensive preservative processes, in costly plants especially erected for the purpose. The high price of this treated lumber and the forms in which it is produced prevent its use by the average consumer, but the economy of wood-preservation is brought home to him powerfully by such practical evidence, offered, as it is, by the most careful and scientific of industrial operators. It can be set down as certain that they would not subject themselves to all this trouble and expense unless there was a large profit in it.

ID 89-B814 TCE

After an experience of over thirty years as manufacturing chemists of coal-tar products, we have produced a compound which, without the elaborate methods and expensive plants, without the high prices which they entail, and without restriction as to the form and shape of the lumber to be used, but by simple application with a brush to any woodwork or by dipping or soaking the lumber, gives a very remarkable preservative effect at exceedingly low cost. This product we call

“CONSERVO”

and the name is our registered trade mark.

Conservo is a brownish liquid which imparts to wood a rich nut-brown shade. Any one can apply it, using a wide, flat brush,—with which the work can be done very rapidly and thoroughly,—or by dipping or soaking. It is a compound of specially prepared high-boiling (non-volatile) coal-tar oils and other preservative salts, and, in addition to its preservative powers, it has wonderful disinfecting and germicidal qualities which destroy bacteria, worms, etc., and neutralize all putrid or noxious matter.

The three cardinal principles of wood preservation are

- (1) **Penetrating Power: To Penetrate the Wood;**
- (2) **Permanence: To Stay in the Wood;**
- (3) **Antiseptic Power: To Sterilize the Wood;**

and the greatest of these is

Penetrating Power

No preservative can preserve unless it penetrates. **Conservo** has wonderful penetrating power, being far superior in this respect to the many heavy, viscous compounds called carbolineums. It is so limpid that it can be applied cold or hot, in all temperatures, and it goes quickly and deeply into the wood, while the more viscous compounds—many of which are partly or wholly solid at normal temperatures, and all of which are comparatively sluggish—penetrate slowly and very slightly, the larger part of them remaining on the surface of the wood, to be washed off by the first rains. The illustrations on pages 5 and 11 are demonstrations of the remarkable penetrating powers of **Conservo**.

Permanence

Conservo is non-volatile and insoluble to a very high degree. It does not begin to evaporate until exposed to a temperature of 430° F., *or more than twice as high as the boiling point of water*. This means that when it penetrates the wood, it stays there, because no woodwork is likely to be

subjected to such a high temperature except in case of fire. It is heavier than water and of an oily nature, so that it does not readily dissolve or leach out of the wood, and the asphaltic compounds formed by its high percentage of the Phenols, or tar acids, are insoluble and permanent. Which leads us to the third cardinal principle,

Antiseptic Power

Conservo contains from two to four times as much of the powerfully antiseptic Phenols, or tar acids, as the various carbolineum compounds. These Phenols form the active principle of all of the well-known coal-tar disinfectants, germicides and antiseptics, and these substances have from three to six times greater sterilizing and bacteria-killing power than straight carbolic acid. Decay is produced by bacteria, and yet it is claimed that preservatives made without Phenols, or from which the Phenols have been extracted for manufacturing purposes in the great German dye-works, are rendered more efficient by the loss of these powerful destroyers of bacteria. Recent scientific investigations have shown that these Phenols form new asphaltic compounds with the albumen and other perishable components of the wood, and that these compounds neither dissolve nor decompose, so that they greatly increase the permanency of the preservative effect.

Conservo will not hurt metals, and no hesitation need be had in using it on woodwork carrying rails or other metal work. The decay brought on by the rusting of nails or other iron fastenings will be checked or prevented by it.

Paint of any color can be applied after the treatment of the wood with **Conservo**, but it may darken the tone of light paints.

Wood-destroying worms and insects are repelled by the odor and taste of **Conservo**, which is a powerful insecticide. Even the teredo, or naval worm, will not attack wood that is thoroughly treated with it. This property makes **Conservo** especially valuable in warm climates, where wood is subject to destruction by insects as well as by rapid decay.

The cost of Conservo is so very low that it can be used with great profit on almost all kinds of woodwork exposed to decay, although the exorbitant prices charged for other preservatives make their economy questionable, even if they perform what is claimed for them. The cost of the lumber is a small item compared to the cost of labor and trouble in making repairs. A post, or a tie, or a sill may be bought for a small sum, but it costs a good deal to repair a fence that has fallen down because of a rotten post, or to relay a rail that has got out of place on account of a rotten tie, or to jack up a building that has sagged down over a rotten sill. When these expenses can be saved or much reduced by the expenditure of a few cents in a good wood preservative, it is like burning

money to neglect to do it, for no one can make money faster in any honest business than he can save it in this way.

On old lumber **Conservo** is as valuable as on new. The checks, cracks, holes, and soft spots are where the decay begins, and these are the spots where **Conservo** penetrates quickest, stopping all decay that has begun and preventing new rot from beginning. The rotting of railroad ties can be arrested by having section-hands and track-walkers apply **Conservo** with a brush to the exposed parts.

In stables it has a double value, not only preserving the woodwork, but overcoming the unhealthy odors, repelling vermin, and making wholesome surroundings. This is equally true of cow barns, cattle and sheep sheds, and poultry houses.



HARVARD BRIDGE, BOSTON, MASS. (WILLIAM JACKSON, City Engineer)
Wood Planking Preserved by Cabot's Conservo

Bridge and Wharf Timbers

One of the largest uses of **Conservo** is for stringers, planking and other bridge and wharf timbers. The saving of the wood is very important in such cases, but the saving in labor and in time consumed in repairing caused by decay is even greater.

CITY OF BOSTON, ENGINEERING DEPT., May 12, 1910.

"We have used Cabot's **Conservo**, manufactured by Samuel Cabot, Inc., for many years with very satisfactory results."

WILLIAM JACKSON, City Engineer.

Telephone and Telegraph Poles

Thorough treatment with **Conservo** will save the enormous losses caused by rotting poles, and labor and delays of resetting, as well as the consequent damage to wires and other property. Poles should be copiously treated from the butt to a point about two feet above ground. The U. S. Forest Service states that 33% increase of service for the brush method and 66% increase for the tank method is probably a very conservative estimate of the benefits of good preservative treatment of poles.



GREEN LUMBER, SOAKED

SEASONED LUMBER, TWO BRUSH COATS

Photographs showing penetration of Conservo on seasoned and green lumber. Tests made by Charles W. Wagner, Esq., Pottsville, Pa., who says: "You will note that penetration is very good, even on green chestnut. Pleasing feature is the power or property of Conservo by which it continues to penetrate long after the treatment."

Mine Timbering

"In 1905 for every ton of coal mined the timber used cost 8 cents."

"45% of mine timber is destroyed by decay . . . insects, 10%."—*U. S. Geol. Reports*

The actual loss of lumber is only a part of the expense. The larger part is in the cost of labor in making repairs and renewals, and the loss of time in partial or complete shut-downs that these repairs entail. **Conservo** will save a very large percentage of this waste. The cost is only a few cents per stick, either by brush or soaking, and the saving many times greater.

"Our use of your Conservo has been quite satisfactory."

LILLY COAL CO., Altoona, Pa.

Silos

Decay is the worst enemy of silos, and can be prevented by treating with **Conservo**. It costs more to repair a silo than a fence, but costs no more to preserve it, per square foot.

Fence Posts, 3c. Each

Three cents' worth of **Conservo** will double the life of a fence post. Heavier treatment will do much more. How can any farmer, railroad man, breeder or grape grower fail to see the economy of treating all his posts, and the waste of letting them go? The cost of preserving other timber is in proportion.

BLAIRSVILLE, PA., June 1, 1902.

"Please send me C. O. D. a five-gallon can of Conservo at once. I bought some a few years ago, and find it all right for painting fence posts, and desire a can as soon as possible."

REV. N. G. MILLER.



AZISCOOS DAM, MAGALLOWAY RIVER, ME. (970 ft. long, 82 ft. high)
SAWYER & MOULTON, Engineers, Lewiston, Me.

Dams, Irrigation Conduits, Sluiceways, etc.

The woodwork of dams, conduits, culverts, sluiceways, etc., is subject to constant changes from wet to dry and dry to wet, which rot it very rapidly. The cost of keeping all of this woodwork thoroughly preserved with **Conservo** is so insignificant in comparison with the saving that no owner who looks ahead can afford to neglect it.

LEWISTON, ME., January 24, 1912.

"I am sending with this a photograph of Aziscoos Dam and a portion of the log chute. All the woodwork of the dam, log chute, and bridges was painted with **Conservo**. The log chute was a mile in length. I will send you photograph of the ice-house in a day or two."

SAWYER & MOULTON, per W. H. S.



LACKAWANNA & WYOMING VALLEY R. R.

Floor Sleepers in Concrete Construction

Great loss is caused by the decay of wood floor sleepers in concrete buildings, and **Conservo** will prevent wet or dry rot in such timbers at very slight expense.



LAYING TIES TREATED WITH CONSERVO, FAIRVIEW INCLINE, CINCINNATI, OHIO.

Railroad Ties

It is almost always possible to treat ties in large lots, and simple treating tanks, with steam coils at the bottom, for heating the **Conservo**, can be cheaply built (see page 13) in which ties can be economically treated. Soak them thoroughly wherever possible. **Conservo** costs very little, and replacing ties is an expensive job.

Sills, Planking, etc.

Sills that rest on or near the ground, ties and planking that are always half wet and half dry, boards that are liable to destruction by worms, all can be made to last twice as long by treating with **Conservo** at a fraction of the cost that decay entails.

IRONDALE, IOWA, January 11, 1904.

"The **Conservo** you sent me has proved quite satisfactory. Having just completed a new turn table at the time, we applied **Conservo**, which only partially covered the area, leaving the balance of area bare, and I find on examination the wood is well preserved, and would consider will add double the life as compared to the portion untreated."

L. B. HOWLAND, Pres. and Gen. Mgr.

Irondale, Bancroft & Ottawa Ry. Co.

Ship and Boat Timbers

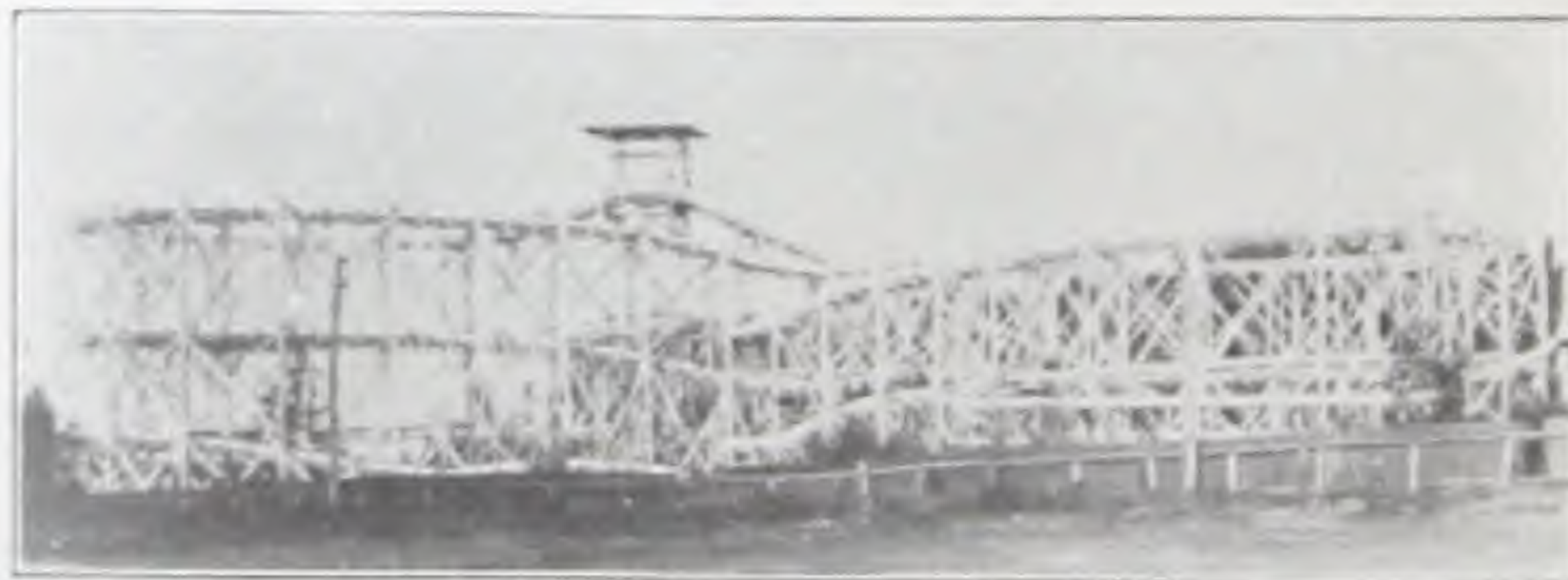
and planking especially require this preservative treatment because the appearance of decay is particularly fatal to vessels of all kinds. As a priming coat under copper paint, **Conservo** has peculiar value, penetrating and preserving the wood and making the paint much more effective.



FAIRVIEW INCLINE, CINCINNATI TRACTION CO., CINCINNATI, OHIO
Treated with Conservo

Trestle-work and Supporting Timbers

Repair work upon structures of this type is a serious matter, and it can be indefinitely postponed or entirely prevented by keeping the wood thoroughly treated with **Conservo**.



ROLLER COASTER, BROCKTON, MASS.
Preserved with Conservo

Grand-stands, Roller Coasters, Scenic Railways, etc.

All of the woodwork of the modern amusement parks should be kept preserved with **Conservo**. It will save more than ten times its cost in money, and will protect lives by keeping these structures sound and safe. Everything from dance-hall floors to tent-pegs needs preservation.

Stables, Cattle-sheds, etc.

The woodwork of stalls and tie-ups is especially subject to decay, and **Conservo** not only prevents this, but it also kills the foul odors and vermin and makes the premises wholesome. If used on stalls and mangers it prevents "cribbing."

Poultry-houses

It rids poultry-houses of mites, lice and other vermin.

Kills Disease Germs and Foul Odors

Conservo is a powerful disinfectant and germicide, and for that reason alone is very valuable wherever animals are kept.

23 COURT STREET, BOSTON, May 3, 1906.

"I beg to acknowledge yours of the 1st inst., asking my opinion as to the merits of your preservative **Conservo**."

"I have used this for five years and am very glad to give my opinion of its merits, as I consider that anything the use of which will prolong the life of wood is a public benefit. From my observation and experience, it prolongs the life of wood to a very great extent, how long, I cannot say. I, myself, use it always in construction which goes underground, or where the wood is liable to rot. I also use it to paint fences, and to paint the inside of stables, pigsties, etc., and have found it very useful."

"I also find it a preservative against rats and other animals, and use it in stalls to prevent my horses from cribbing."

G. ST. L. ABBOTT.

NEW YORK, N. Y., August 21, 1911.

"I have been using this **Conservo** not only as a wood preservative, but for painting a considerable number of box stalls and pens in my cattle and calf barns as a disinfectant, with very good results."

FRANK M. AVERY.



NEW 10,000-TON ICE-HOUSES OF THE LAKE AUBURN CRYSTAL ICE CO.,
AUBURN, ME.

SAWYER & MOULTON, Engineers, Lewiston

Woodwork preserved with **Conservo** Wood Preservative

Ice-houses

Rotting wood causes enormous loss in ice-houses, and the low price and great efficiency of **Conservo** make it possible to prevent this loss at a very

small expense, the cost being about half that of the less efficient carbolineum compounds.

Piles, Weir-Poles, etc.

Conservo will protect piles and other woodwork that is submerged in water part of the time from both decay and worms, saving lumber and the unusually large repair costs on such work. It completely protects wood against the very destructive *Teredo*, *Xylotrya*, *Limnoria*, and other naval worms or insects.

CORONADO, CAL., December 24, 1903.

"I regret to say that both pieces of timber and piling submerged to test your Conservo were carried away when they had been down thirteen months. I am, however, trying it under same circumstances again. The pieces of pine buried in the ground since October 17, 1902, look first rate."

GEORGE HOLMES, P. A.,
Coronado Beach Co.

(The first test, which was washed away after being under water for thirteen months, was made to try the efficacy of Conservo against the teredo, or naval worm, which is exceedingly destructive to piles and all other submerged woodwork, especially on the Pacific Coast and on the South Atlantic Coast. An untreated piece of wood could not have lasted anything like the time stated.)

WEST DENNIS, MASS., December 21, 1903.

"I would like to have ten gallons of Conservo paint such as I have been using to paint fish weir-poles. . . . That is the best thing I ever put on poles. No worms or barnacles on the poles when we pull them in December, nine months down."

Z. H. BAKER.

Residences, Hothouses, etc.

There are dozens of uses to which Conservo can be profitably put on any country or suburban estate, such as that described by Captain Wilson — piazza and shed floors and stringers, flower-boxes, stakes, wooden tool and implement handles, wagons, etc.

OVERBROOK, PA., November, 1910.

"I have been buying your Conservo and using it with great advantage for more than a dozen years. My house veranda is enclosed, in winter, by sashes 120 feet long, 10 feet high, the wooden part of which has had no other protection than Conservo applied five years ago, and once since that time receiving one coat on the outside only."

CAPT. JOSEPH LAPSLEY WILSON.

WHITE OAK, 4½ LBS.



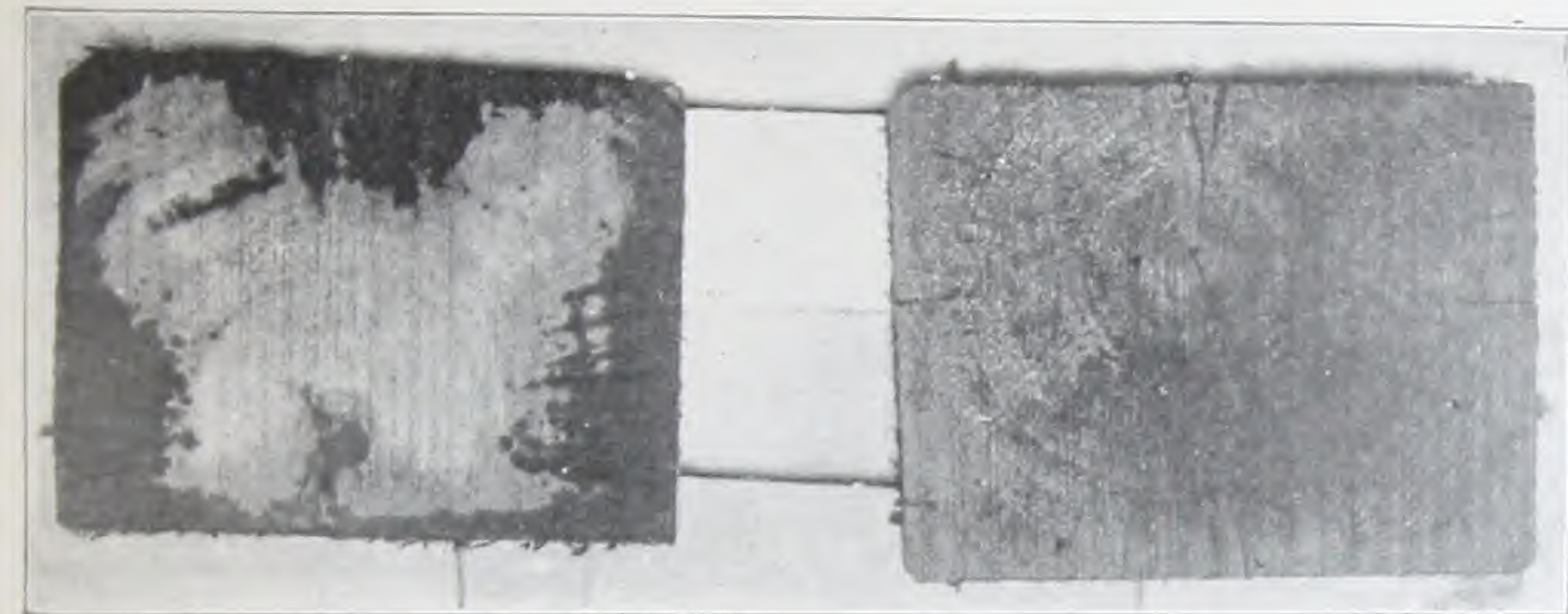
SUGAR, 31 LBS.



BLACK OAK, 16 LBS.



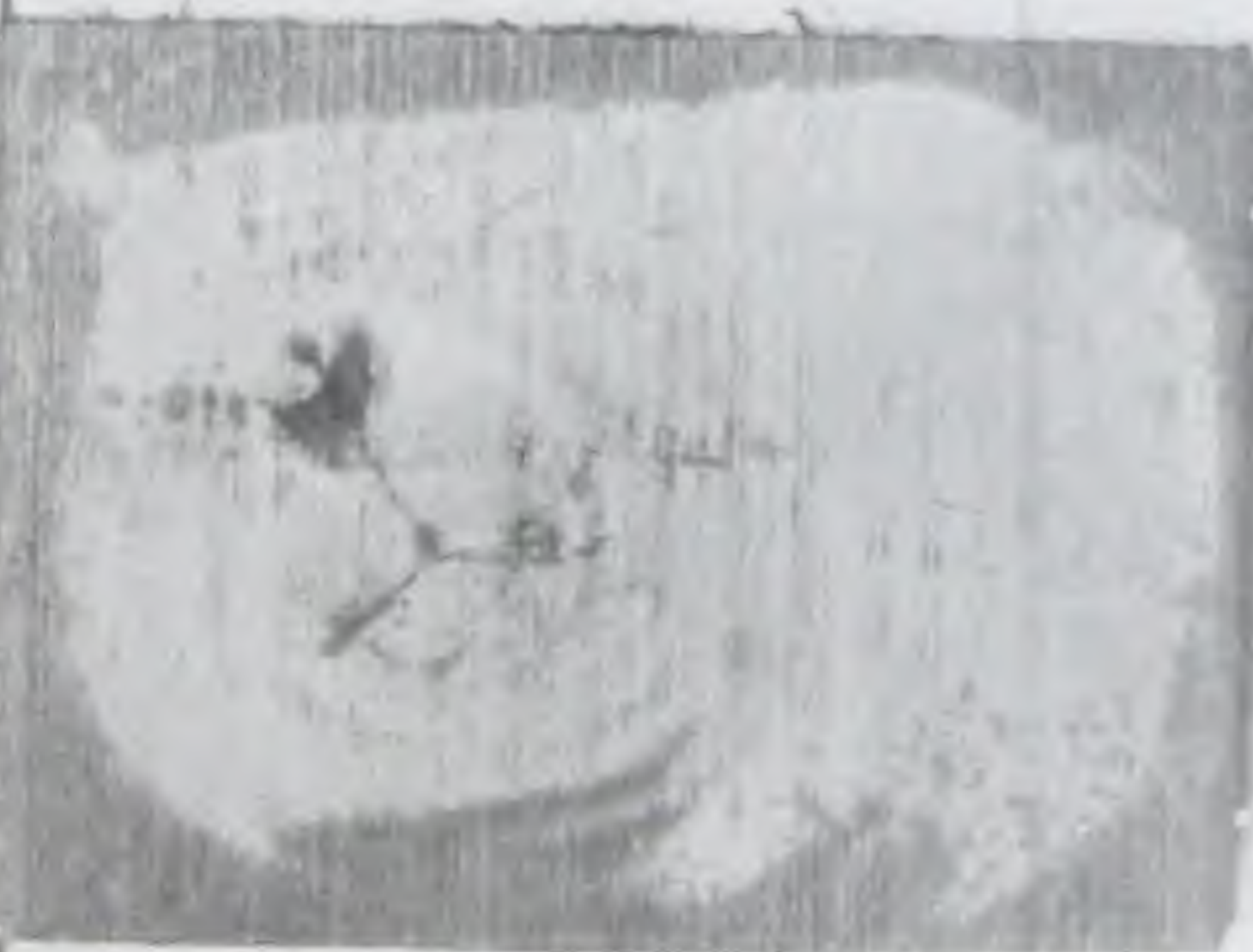
RED OAK, 7 LBS.



BEECH, 12 LBS.



BIRCH, 21 LBS.



CHESTNUT, 9½ LBS.



RED OAK, 35 LBS.

Photographs showing remarkable penetrating powers of Conservo on railroad ties. The method of treatment used was the open tank vacuum process described on page 13. No pressure was applied, and these wonderful results were obtained by simply soaking the ties in alternate baths of hot and cold Conservo. The length of treatment varied from a few hours to a full day, and the penetration varied according to the length of treatment and the porosity of the different woods, as will be seen. The figures show the weight of Conservo absorbed by each tie, the close-grained white oak absorbing only 4½ pounds, while the porous red oak took up 7 pounds on a short treatment, and with a full day's treatment it absorbed 35 pounds, and was practically completely impregnated. Penetration is the first requisite for a wood preservative. If it does not penetrate it cannot preserve. The heavy, viscous carbolineums remain mostly on the surface and are washed off by the first rains.

APPLICATION

As previously stated, **Conservo** can be effectively applied either hot or cold, and by any of the processes commonly employed, *i. e.*, brush-coating, dipping, soaking or impregnation. Where it is practicable, the hot application is recommended, because the heat drives out the latent moisture in the wood and makes the penetration more perfect, but the penetrating power of **Conservo** is so great that it gives splendid service when applied cold. This feature is of the greatest importance, because in most cases it is not feasible to procure and set up the proper apparatus for heating. **Conservo** has an immense advantage over other preservatives in this respect, because they require heating to be economically or effectively used.

BRUSH-COATING

Apply two coats or more, as heavily as possible, allowing the first coat to dry before the second is applied, etc. Use a broad, flat brush or mop for speed. See that the wood takes up as much as possible, especially at the ends or where the grain is crossed, so that the medullary rays and grain lines will carry it deeply into the wood. Have the wood as dry as possible.

DIPPING

This is a rapid way of getting a somewhat more effective result than by brush-coating. Dipping tanks filled with hot or cold **Conservo** are so arranged that the timbers can be passed in and out rapidly. This takes more material, but less labor, and where feasible is better than brush-coating, as it insures the covering of the entire surface heavily. Any tight vessel of sufficient size will do for a cold dipping tank, but a steam coil, gas burner or direct fires are necessary for hot dipping. Have the wood as dry as possible.

SOAKING

This is the same process as dipping, but carried farther. The wood is allowed to soak in hot or cold **Conservo** from a few minutes up to four or five hours, depending upon circumstances. **Conservo** has such great penetrating power that even a short soaking sends it well into the wood, giving thorough outside preservation, which is most important, but the longer the soaking the better. The thickness of the timbers and the conditions as to dryness, density and general characteristics of the wood, as well as the purpose for which it is to be used, determine the length of immersion; but soft or porous wood will be well treated in from thirty minutes to three hours, and harder and more dense woods in from two to five hours. The timbers should be kept entirely immersed, not merely floating, to give best results. The tanks can be easily adjusted to provide for this.

OPEN TANK VACUUM SOAKING

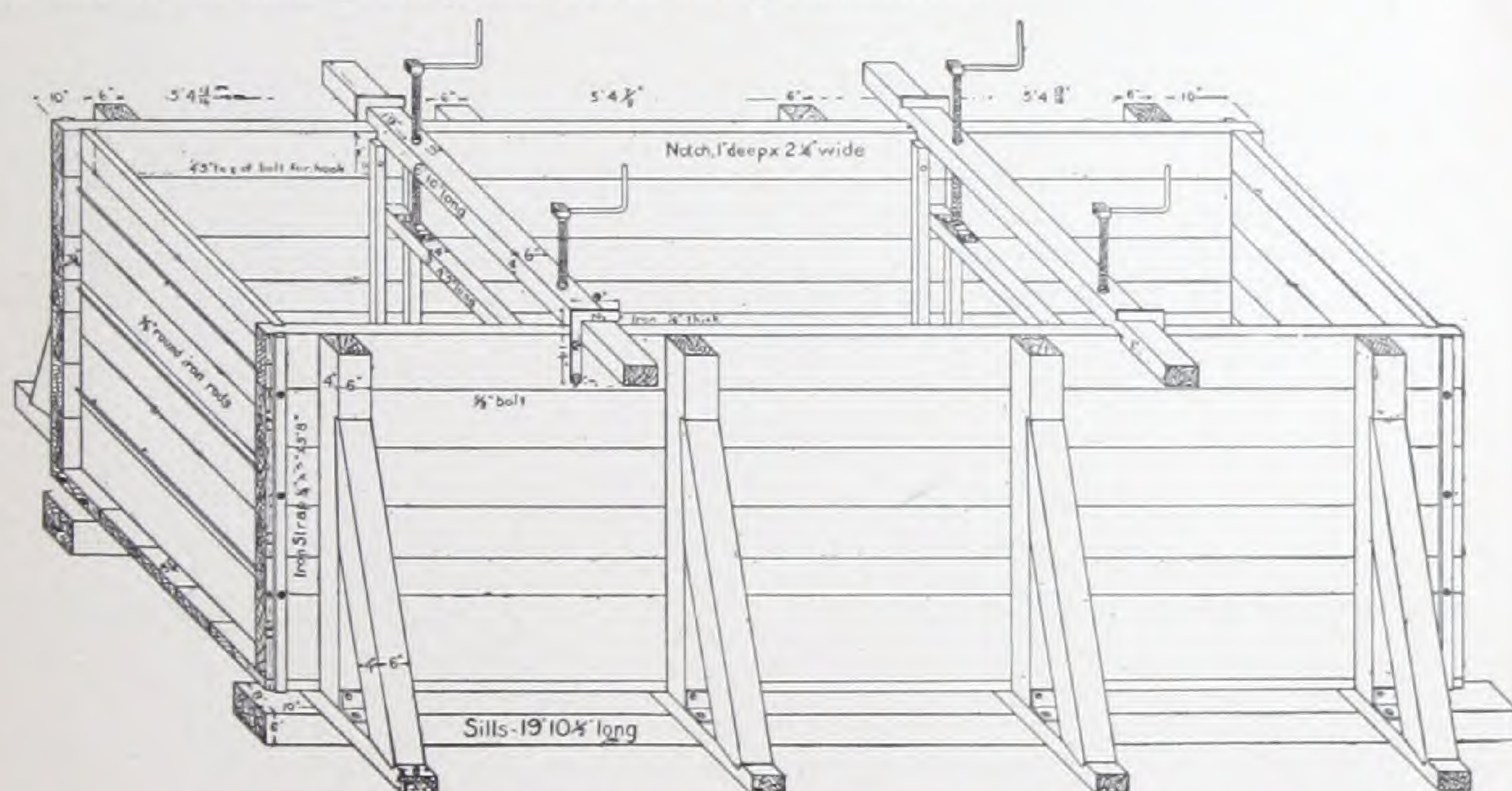
This is the most efficient and scientific soaking method. The plant required is somewhat more expensive than the simpler process, but it gives results almost equal to those of impregnation under pressure, and that method costs so much that only the largest operations warrant it. The vacuum process is carried out in two or three operations, in alternate baths of hot and cold **Conservo**. When a third bath is thought desirable it is of short duration. The length of immersion depends upon the character and condition of the wood. The process is as follows:

First: Soak in hot **Conservo** from one to five hours.

Second: " " cold " " " " two "

Third: " " hot " about thirty minutes.

The hot bath produces a partial vacuum in the air cells of the wood, which, aided by the condensation caused by the cold bath and air, draws the **Conservo** into the wood and greatly increases the permeation.



A simple and efficient treating tank, with immersion screws for soaking timbers up to about 15 feet long. Fence posts can be treated in a round tank of 3 to 5 feet in diameter. Drawings for open tank vacuum process plants furnished on request.

We have reiterated and wish to further emphasize that dryness of the wood is of great importance. If the pores of the wood are full of moisture, penetration is retarded. If you are obliged to use wet wood, always apply **Conservo** hot — temperature about 200 to 220° F. The heat drives off the moisture, and this is valuable, because green or wet lumber is more likely to decay than dry.

ADOPT THE IRON-CLAD "CONSERVO" RULE:

**"Every stick of timber that goes into construction
shall be treated with Conservo Wood Preservative"**

This rule will pay you a higher percentage on its cost *than any other* investment you can make.

A Few Users of "CONSERVO"

Boston & Albany Railroad.
 Boston & Maine Railroad.
 Long Island Railroad.
 Metropolitan Park Commission.
 Massachusetts Highway Commission.
 Metropolitan Water & Sewage Board, Boston.
 City of New York Dock Department.
 Conestoga Traction Company, Lancaster, Pa.
 Philadelphia & Wilmington Street Railway, Wilmington, Del.
 Philadelphia & West Chester Street Railway, Philadelphia, Pa.
 Lackawanna & Wyoming Valley Railway, Scranton, Pa.
 Delaware, Lackawanna & Western Coal Company, Kingston, Pa.
 Cleveland & Eastern Railway, Cleveland, Ohio.

Eastern Ohio Railway, Cleveland, Ohio.
 Indiana Union Traction Company, Anderson, Ind.
 Sandusky Telephone Company, Sandusky, Ohio.
 Binghamton Light, Heat, and Power Company, Binghamton, New York.
 Chicago, Lake Shore & South Bend Railway, Michigan City, Ind.
 Argonaut Mining Company, Jackson, Cal.
 Osceola Consolidated Mining Company, Houghton, Mich.
 International Phosphate Company, Jane Jay, Fla.
 Harvard Mines, Houghton, Mich.
 Tamarack Mining Company, Tamarack, Mich.
 Freemont Consolidated Mining Company, Freemont, Cal.
 Lewiston-Clarkson Company, Lewiston, Idaho.

COVERING CAPACITY

Brush-coating:

1 gallon covers about 100 square feet of rough **sawed** lumber, two coats.
 1 " " " 200 " " " **hewn** " " "
 1 " " " 250 " " " **dressed** " " "

(The amount varies somewhat, according to the character and condition of the wood, but these are safe and conservative figures.)

Dipping: About the same as brush-coating, if the Conservo is drained back into the dipping-tank to prevent waste.

Soaking: The covering capacity varies so greatly for both methods of soaking, owing to differences in wood, heating, length of immersion, etc., that it is impossible to give exact figures, but simple soaking for a short time will take about twice as much as dipping; the vacuum process from 4 to 12 cubic feet per gallon; and by the expensive impregnation pressure process, the wood can be made to take up two or three gallons per cubic foot.

PRICES

(These are fair prices. No genuine Coal Tar Distillate preservative can reasonably be sold for much more, but many are sold for more than twice as much.)

| | |
|---------------------------------------|--------------------|
| In barrels and half-barrels | 40 cts. per gallon |
| In 5 gallon cans | 50 " " " |
| In 1 " " " | 65 " " " |

No charge for package

Made only by SAMUEL CABOT, Inc.
Manufacturing Chemists Boston, Mass., U. S. A.



SAUGUS RIVER BRIDGE, METROPOLITAN PARK COMMISSION, BOSTON
 Woodwork preserved by Conservo



